

## REMARKS

Entry of the foregoing and reexamination and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. § 1.112 are respectfully requested in light of the following remarks.

Claims 22-47 are pending in this application. Claims 40-47 have been added. Claims 1-21 were previously cancelled. Claims 31-39 have been withdrawn from consideration by the Examiner.

Claims 23, 24, 26-28, 30 and 31 have been amended to delete elements that were recited as being either "particular" or "optional". Claim 31 has also been amended to better describe the claimed process by adding designators to separate various elements.

Claims 40-47 have been added. These claims recite the elements that were previously recited as "particular" or "optional" elements in Claims 23, 24, 26-28, 30 and 31.

No new matter has been introduced in making these amendments.

### **Restriction Requirement**

In response to the restriction requirement, Applicants elected with traverse Group 1, Claims 20-30, drawn to a hydrotalcite intercalated by silica. The Office Action made this requirement Final, despite arguments provided as to why Applicants believed the restriction requirement was improper. Applicants believe that claims directed to processes for making the hydrotalcite, which are found in Group II (Claims 31-34 and 47) and claims directed to the use of the hydrotalcite, which are found in Group III (Claims 35-39) may be eligible for rejoinder upon the

determination that product claims are allowable, provided that all of the limitations of the product claims are included in the process claims.

Claims 31-39 have been withdrawn in this amendment but are being maintained in this application as the restriction requirement indicates that they would be eligible for rejoinder.

**35 U.S.C. § 112 second paragraph Rejection**

Claims 23, 24, 26-28 and 30 have been rejected under 35 U.S.C. § 112, second paragraph, as purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The Office Action indicates that a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation is indefinite since the resulting claim does not clearly set forth the metes and bound of the patent protection desired. The Office Action indicates that the cited claims recite a broad recitation for at least one divalent cation or molar ratio and also cites optional elements which is a narrower statement of the range/limitation.

Claims 23, 24, 26-28 and 30 have been amended to delete elements that were previously recited as "particular" or "optional".

Amended Claims 23, 24, 26-28 and 30 particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants therefore requests that these rejections be withdrawn.

**35 U.S.C. § 103(a) Obviousness Rejection**

Claims 22-30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaminsky et al. (US 7,046,439).

Applicants respectfully submit that the claims are not obvious over Kaminsky et al. and that Claims 22-30 are allowable.

To establish a *prima facie* case of obviousness, three basic criteria must be met. (M.P.E.P. § 2143) First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Secondly, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Kaminsky teaches an optical unit having nano-particle/polymer blend compositions, where the compositions contain colloidal inorganic oxide particles. Kaminsky teaches: "The inorganic oxide particles can comprise essentially a single oxide, such as silica, a combination of oxides, such as silica and aluminum oxide, or a core of an oxide of one type (or a core of a material other than a metal oxide) on which is deposited an oxide of another type." (col. 11 lines 51-55) Kaminsky teaches:

tures of illites with the clay minerals named above. Other useful layered materials, particularly useful with anionic polymers, are the layered double hydroxides or hydrotalcites, such as  $\text{Mg}_6\text{Al}_3\text{.4}(\text{OH})_{18\text{.8}}(\text{CO}_3)_{1\text{.7}}\text{H}_2\text{O}$ , which have positively charged layers and exchangeable anions in the interlayer spaces. Other layered materials having little or no charge on the layers may be useful provided they can be intercalated with swelling agents, which expand their interlayer spacing. Such materials

(col. 14, lines 6-14)

The Office Action acknowledges that Kaminsky fails to disclose compositions comprising hydrotalcite intercalated by silica. (page 5, second paragraph)

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. There is no suggestion or motivation in Kaminsky to modify the Kaminsky to obtain the composition of the present invention. The Office Action has not provided the motivation for making the required change to the composition of Kaminsky. Kaminsky list numerous layered materials (col. 31, line 60 - col 14, line 37) as well as numerous colloidal inorganic oxide particles but does not provide any motivation to form a hydrotalcite intercalated by silica from all of the possible combinations of the two elements listed in Kaminsky. The Office Action alleges that it would have been obvious to obtain the composition of the applicant's invention because Kaminsky teaches that when inorganic nano-oxide and clay particles are used together, the inorganic oxide nano-particles can actually go in between the intercalated clay layers. However, the Office Action fails to indicate that Kaminsky also teaches that swelling agents may be required to make this happen and thus one of ordinary skill in the art would not be motivated to form the specific combination without any motivation to use a hydrotalcite and silica. Therefore there is no suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to obtain the applicants' invention.

To establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. There would not be a reasonable expectation of success in

obtaining the applicants' invention given the entirety of the teachings in Kaminsky. Kaminsky does not teach or suggest a hydrotalcite intercalated by silica. While Kaminsky teaches that inorganic oxide nanoparticles can go in between intercalated clay layers, Kaminsky also teaches that swelling agents may be needed for this to occur. Given differences between the various clays and organic oxides recited in Kaminsky, and the teaching that swelling agents may be required to allow nanoparticles of oxides to move into nanoparticles of clays, one could not reasonably expect that the claimed composition could be produced. Therefore there would not have been a reasonable expectation of success in combining the references to obtain the applicants' invention.

To establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations. One of ordinary skill in the art would recognize that Kaminsky does not teach a hydrotalcite intercalated by silica. The Office Action acknowledges that Kaminsky fails to disclose compositions comprising hydrotalcite intercalated by silica. (page 5, second paragraph). It is only by hindsight reconstruction that one of the numerous layered materials listed by Kaminsky (col. 31, line 60 - col. 14, line 37) is combined with one of the numerous colloidal inorganic oxide particles listed in Kaminsky. As indicated above, Kaminsky does not provide any motivation to form a hydrotalcite intercalated by silica from all of the possible combinations of the two elements. Therefore Kaminsky does not teach or suggest all the claim limitations.

Applicants respectfully submit that Claims 22-30 are not obvious over Kaminsky et al. Applicants therefore request the withdrawal of the rejections of Claims 22-30 under 35 U.S.C. § 103(a).

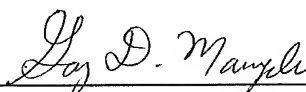
If there are any questions concerning this Response or the application in general, Applicants invite the Examiner to telephone the undersigned at the Examiner's earliest convenience.

In view of the foregoing, it is believed that the record rejections cannot be maintained against the claims. Further, favorable action in the form of a Notice of Allowance is believed to be next in order and is earnestly solicited.

Respectfully submitted,

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